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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,561	09/07/2000	Chennur Radhakrishna Reddy	11378.21US01	2020

23552 7590 11/23/2001
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EXAMINER

MCCORMICK, SUSAN B

ART UNIT

PAPER NUMBER

1661

DATE MAILED: 11/23/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/656,561	REDDY ET AL.
	Examiner Susan B. McCormick	Art Unit 1661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on March 13, 2001.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-17 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 07 September 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____

2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) Other: _____

Detailed Action

Status of Application

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1661.

Claim Rejections- 35 U.S.C. 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, part e), the recitation "agitated condition" is unclear. ✓

Claims 2 and 3 are indefinite in their use of improper Markush language "comprising" and "consisting of". ✓

Claim 4 should read "are selected" and "or distal". ✓

Claim 8 seems outside the scope of claim 1. The light level is not within the range of claim 1, part d. Also there is no mention of "profusely branched pigmented calli" in claim 1. ✓

Claim 15 is not clear what the nature of the enhancement is, i.e. more embryos or "better" embryos. *in turn - second best can be applied to C. 1*

Claim 16, the recitation "harvesting period" has no antecedent. The recitation "can yield higher biomass" is a relative term with no standard for comparison, i.e. higher than what? Also, Applicant should explain the recitation "cultivation period". ✓

Claim 17 is not clear with regards to what the control plant would be.

Claim 17 is indefinite in its recitation of parenthetical material. It is not clear whether something other than fresh weight can be measured and could the product be something besides carrageenan?

Claim Rejections- 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected over Dawes et al. in view of Mairh et al. Dawes et al. teach using *Eucheuma* in tissue culture of seaweed and using temperatures of 18 to 26°C, irradiances of 20-160 μmol photons $\text{m}^{-2} \text{s}^{-1}$, use of *Kappaphycus alvarezii* and *Eucheuma denticulatum*, use of growth regulators i.e. NAA and BAP, use of antibiotics and betadine, obtaining callus and subculturing it to get differentiated micropropagules (e.g. page 253), use of 12:12 photoperiod. They do not teach propagating the young plantlets in protective cultures in the sea. Mairh et al. teach using *Kappaphycus striatum* (*Eucheuma striatum*) in tissue culture and the apical fragments were grown in shallow pools in perforated protected polyethylene bags. Protection of the plants in bags provided a high rate of survival (page 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a tissue culture method to propagate marine algae as suggested by Dawes et al. and to use the polyethylene bags in propagation of marine algae as demonstrated by Mairh et al. Mairh et al. has shown the algae does increase in length in the polyethylene bags in the sea. The skilled artisan would have been motivated to do so, given the high survival rate of algae grown ⁱⁿ ~~in~~ polyethylene bags. There would have been reasonable expectation of success, given the procedure has been done previously. Thus the invention as a ~~whole~~ would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made.

Summary

No claims are allowed.

Future Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Susan B. McCormick whose telephone number is (703) 305-1682. The Examiner can normally be reached Monday through Thursday from 7:00 a.m. to 4:30 p.m. and alternate Fridays from 7:00 a.m. to 3:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Bruce Campell, can be reached on (703) 308-4205. The fax number for the group is (703) 305-3014 or 308-4242.

Any inquiry of a general nature or relating to the status of this application should be directed to the Matrix Customer Service Center whose telephone number is (703) 308-0196.

sbm



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